

## **Guide to Rapid Environmental Health and Safety Audits**

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### **Abstract**

There are several types of audits, assessments, and monitoring and evaluations (M&E) prevalent in environmental and health and safety management. These are established for various, sometimes overlapping objectives to protect property, human health and the environment. Rapid Environmental Health and Safety Audits (REHSA) are typically performed at active and abandoned commercial or industrial facilities to identify health and safety risks and propose remedies to protect its workers and neighboring communities from these risks. In all cases, such activities should be performed by qualified individuals who have completed the training and education, attained appropriate knowledge and insights, and developed the skills and techniques to properly conduct and evaluate the activities, under the supervision of experienced senior professionals. REHASs should be clearly written, well organized and illustrated, and include sections on objectives, activity, background, facility or site plan (map) and coordinates, labeled photographs of issues, and most of all, objective observations or findings, conclusions, and recommendations (FCR).

### **Introduction**

There are several types of audits, assessments, and monitoring and evaluations (M&E) prevalent in environmental and health and safety management. These are established for various, sometimes overlapping objectives to protect property, human health and the environment. Rapid Environmental Health and Safety Audits (REHSA) are typically performed quickly at active and abandoned commercial or industrial facilities to identify health and safety risks and propose remedies to protect its workers and neighboring communities from these risks.

Other assessments and evaluations are often performed at facilities or project activities to monitor and evaluate compliance with laws, regulations, codes, policies, and permits, as well as internal company policies which might avoid or mitigate future adverse legal actions, and unintended environmental releases and risks. These include, for example, vulnerability and risk assessments, underground and aboveground fuel tank (UST) testing and inspections under State and local codes, asbestos inspections (AI) under the Asbestos Hazardous and Emergency Response Act (AHERA), hazard notification audits under California Proposition 65, telecommunication environmental assessments under Memoranda of Understanding and Congressional exceptions and the Telecommunications Acts of 1996 and 2005, property environmental assessments (PEA) under the Comprehensive Environmental Response, Compensation and Liability Act (aka "Superfund," CERCLA), audits under the Resource Conservation and Recovery Act (RCRA) and Hazardous Solid Waste Amendments (HSWA) and the Environmental Protection Hazard Communication Act (EPHCA) and related federal and State laws, environmental impact assessments (EIA) under the California Environmental Quality Act (CEQA) and other State laws, environmental impact statements (EIS) under the National Environmental Policy Act (NEPA), worker health and safety audits under Occupational Safety and Health Administration (OSHA), programmatic or project-specific or focused environmental assessments and statements as well as small-scale project conditions M&E under 22CFR216 (Foreign Assistance equivalent of NEPA). Of course, local, State and national governments and agencies, and donors may have their own standards and requirements. In addition, special circumstances may require additional audits and assessments, such as CERCLA and RCRA remedial investigations and feasibilities studies, ecological and endangerment assessments from environmental releases, petroleum spill assessments, and medical and nuclear facility assessments, for example.

The formats and scopes of such activities are codified within agency mandates as modified by ligation and common practice, as well as the requirements, where applicable, for scoping statements (SS) and public consultations with agencies and the public, including communities, beneficiaries, and broader stakeholders. Checklists are often very useful although in themselves they may not be comprehensive enough to be self-standing and sufficient.

### **Strategy for Conducting Rapid Environmental Health and Safety Audits**

In all cases, such activities should be performed by qualified individuals who have completed the training and education, attained appropriate knowledge and insights, and developed the skills and techniques to properly conduct and evaluate the activities, under the supervision of experienced master-level, senior professionals.

REHASs should be clearly written, well organized and illustrated, and include sections on objectives, activity, background, facility or site plan (map using say, Microsoft Visio), elevations and coordinates (using compass, altimeter, and Geographic Information System), weather conditions, labeled and numbered photographs of issues, interview notes, and most of all, objective observations or findings, conclusions, and recommendations (FCR). It is often useful to supplement the REHAS report with presentation media reports such as Microsoft PowerPoint and Movie Maker for memorable effect.

Typical issues identified at oil and gas facilities, tank farms, pipelines, pumping stations, subsurface recharge stations, liquid petroleum gas (LPG) plants, oxygen plants, and water and wastewater facilities include petroleum and chemical leaks and spills, fire hazards, air pollution, improper labeling and storage of hazardous materials and waste (acids, bases, solvents and paints, heavy metals, petroleum products and fuels (also petroleum, oil and lubricants (POL)), polychlorinated biphenyl's, volatile and semi-volatiles), water and wastewater and process treatment chemical spills leaks and spills (including hydrogen sulfide and chlorine gases), friable asbestos, dead animals and animal waste and debris, construction waste and debris, electrical shocks, noise, unlabeled and open pits and trenches, improperly stored mechanical equipment, smoking in non-smoking areas, inadequate secondary containment of storage and processing tanks, unsafe stair-ways and walkways, tight spaces, and inadequate personnel training, supervision, and M&E programs.

### **Suggested Steps for Conducting Rapid Environmental Health and Safety Audits**

1. Obtain clearance for site visit
2. Pre-site visit document, map and information compilation and review
3. Site visit: site plan sketch, elevations and coordinates citing, weather description, facility description, photography, interviews, and FCRs – be sure to clearly mark and number the EHS issues on the site plan or site-plan blow-ups, and explain the EHS issues
4. Draft report preparation
5. Draft report review
6. Draft report revision
7. Revised draft report review
8. Revised draft report revision
9. Final report preparation, review and approval
10. Final report presentation

### **Conclusions and Recommendations**

Rapid Environmental Health and Safety Audits (REHSA) are typically performed at active and abandoned commercial or industrial facilities to identify health and safety risks and propose remedies to protect its workers and neighboring communities from these risks. In all cases, such activities should be performed by qualified individuals who have completed the training and education, attained appropriate knowledge and insights, and

developed the skills and techniques to properly conduct and evaluate the activities, under the supervision of experienced senior professionals. REHSAs should be clearly written, well organized and illustrated, and include sections on objectives, activity, background, facility or site plan (map) and coordinates, labeled and numbered photographs of issues, and most of all, objective observations or findings, conclusions, and recommendations (FCR).

## Selected References or Information Sources

Asbestos inspections (AI) under the Asbestos Hazardous and Emergency Response Act (AHERA)

Audits under the Resource Conservation and Recovery Act (RCRA) and Hazardous Solid Waste Amendments (HSWA) and the Environmental Protection Hazard Communication Act (EPHCA) and related federal and State laws

Environmental impact assessments (EIA) under the California Environmental Quality Act (CEQA) and other State laws

Environmental impact statements (EIS) under the National Environmental Policy Act (NEPA), worker health and safety audits under Occupational Safety and Health Administration (OSHA), programmatic or project-specific or focuses environmental assessments and statements as well as small-scale project conditions M&E under 22CFR216 (Foreign Assistance equivalent of NEPA)

Gawande, Atul, 2011. *The Checklist Manifesto: How to Get Things Done Right*. Picador Books, 240 p.

Hazard notification audits under California Proposition 65

International Organization of Standards (ISO). *14000 Standard, Environmental Management*.  
<http://www.iso.org/iso/iso14000>

Popkin, Barney Paul, 2015. Guide to social marketing - changing behavior towards sound societal environmental practices.

<https://archive.org/details/GuideToSocialMarketingChangingBehaviorTowardsSoundSocietalEnvironmentalPractices>

\_\_\_\_\_, 2015. Guide to urban water, energy and solid-waste management challenges and solutions, Hashemite Kingdom of Jordan.

[https://archive.org/details/GuideToUrbanWaterEnergyAndSolidWasteManagementChallengesAndSolutionsHashemiteKin  
gdomOfJordan](https://archive.org/details/GuideToUrbanWaterEnergyAndSolidWasteManagementChallengesAndSolutionsHashemiteKin)

\_\_\_\_\_, 2015. Guide to water-resources protection from international development projects.  
<https://archive.org/details/GuideToWaterResourcesProtectionFromInternationalDevelopmentProjects>

Property environmental assessments (PEA) under the Comprehensive Environmental Response, Compensation and Liability Act (aka "Superfund," CERCLA)

Solid Waste Association of North America (SWANA), [www.swana.org](http://www.swana.org)

SPHERE emergency response standards, [www.sphereproject.org](http://www.sphereproject.org)  
USAID Automated Directive System (ADS), [www.usaid.gov/policy/ads](http://www.usaid.gov/policy/ads)

Telecommunication environmental assessments under Memoranda of Understanding (MOU) and Congressional exceptions and the Telecommunications Acts of 1996 and 2005

Underground and aboveground fuel tank (UST) testing and inspections under State and local codes and California Title 22

U.S. Agency for International Development (USAID), Development Experience Clearinghouse (DEC), [dec.usaid.gov](http://dec.usaid.gov)

\_\_\_\_\_ , Environmental Guidelines, [usaid.gov/our\\_work/environment/compliance/guidelines](http://usaid.gov/our_work/environment/compliance/guidelines)

\_\_\_\_\_ , Environmentally Sound Design and Management Capacity-building for Partners and Programs in Africa (ENCAP), [www.encapafrica.org](http://www.encapafrica.org)

\_\_\_\_\_ , Global Environmental Management System, [www.usaidgems.org](http://www.usaidgems.org)

U.S. Air Force for Environmental Excellence,  
<http://usmilitary.about.com/library/milinfo/affacts/blairforcecenterforenvironmentalexcellence.htm>

U.S. Army Environmental Command, <http://aec.army.mil>

U.S. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, aka Superfund),  
[www.epa.gov/superfund/policy/cercla.htm](http://www.epa.gov/superfund/policy/cercla.htm)

U.S. Code of Federal Regulations, 22CFR126, Environmental Procedures (Reg. 216),  
[http://transition.usaid.gov/our\\_work/environment/compliance/22cfr216.htm#216.2](http://transition.usaid.gov/our_work/environment/compliance/22cfr216.htm#216.2)

U.S. Environmental Protection Agency (USEPA), Hazardous Waste Management,  
[www.epa.gov/epawaste/hazard](http://www.epa.gov/epawaste/hazard)

\_\_\_\_\_ , Resource Conservation and Recovery (RCRA) – solid and hazardous wastes,  
[www.epa.gov/epawaste/inforresources/online/index.htm](http://www.epa.gov/epawaste/inforresources/online/index.htm)

U.S. Occupational Health and Safety Administration (OHSA), [www.osha.gov](http://www.osha.gov)

U.S. Resource Conservation and Recovery Act (RCRA), [www.epa.gov/osw/laws-regs/rccraguidance.htm](http://www.epa.gov/osw/laws-regs/rccraguidance.htm)

Vulnerability and risk analysis

World Health Organization (WHO) drinking-water quality standards